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INFLUENTIAL FACTORS IN IT SOURCING DECISIONS OF NORWEGIAN PUBLIC SECTOR: AN EXPLORATORY STUDY

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Abstract

IT outsourcing is considered as one of the major innovations in IT management. Since Kodak outsourced its IT operations and data centers to outside vendors in 1989, IT outsourcing has become commonplace in organizations around the world. Due to the extensive research and practice over the last two decades, organizations have not only developed much better understanding of the benefits, risks, and success factors of IT outsourcing, but also formulated much more complex IT sourcing strategies to reduce the risks and maximize the benefits. However, most of the IT outsourcing literature has focused on for-profit private corporations and less is known about the IT outsourcing practices of non-for-profit public sector organizations. In this study, we attempt to fill this gap by studying the IT sourcing decisions of Norwegian municipalities. The preliminary results show that in addition to the commonly identified factors such as cost savings and managing technical uncertainty, public sector organizations are strongly influenced by their institutional environment, their concerns of local community, the availability and capability of IT vendors, and their unique political and geographic constraints.

Keywords: IT outsourcing, public sector, institutional influence, Norwegian municipalities

Introduction

It was considered a watershed event when Eastman Kodak Corporation, one of the icons of American high-tech industry, decided to outsource most of its IT operations and infrastructure in 1989 in a deal valued at over \$500 million (Loh and Venkatraman, 1992a). This action legitimized IT outsourcing as a strategic IT management practice and provided justification for other organizations to follow. In the next two decades, IT outsourcing has become commonplace in organizations around the world. Today about 23% of the total corporate IT budget is allocated for IT outsourcing (Kirkpatrick and Bolles, 2002). Not surprisingly, numerous studies have been published on the subject of IT outsourcing motivations and benefits (Grover et al., 1994; McLellan et al., 1995; Loh and Venkatraman, 1995; Clark et al., 1995), potential problems and risks (Clark et al., 1995; Earl, 1996; Currie, 1996; Strassmann, 2002), strategies (Cross, 1995; Huber, 1993; Lacity et al. 1995, 1996; Willcocks and Kern, 1998), success factors and best practices (Saunders et al., 1997; Lacity and Willcocks, 1998), and theories (Cheon et al., 1995; Loeff, 1995; Lacity and Hirschheim, 1993).

However, research on public sector IT outsourcing does not seem to have attracted adequate attention, with only a few notable studies (e.g. Currie, 1996; Willcocks and Kern, 1998). Outsourcing in the public sector is more complicated due to shifting political agenda, union pressure, changing leadership, and uncertain budgetary support (Healy and Linder, 2002). Public sector and private sector organizations usually have different strategic objectives and mandate (community oriented and non-for-profit vs. shareholder oriented and for-profit), operational objectives (maximize service and quality with set budgets vs. maximize profit

with minimal cost), funding mechanisms (budgeting based on tax revenue vs. budgeting based on business income), and perhaps most importantly, the institutional environments (policies and regulations applied to a large population vs. relatively independent corporate governing boards). In a study of the UK public and private sector IT outsourcing practices, Currie (1996) found that IT managers in the public sector were concerned that the pressure imposed upon them to emulate the behavior of their private sector counterparts were at odds with the traditional public sector ethos of service to the community. Given these differences, one would expect that there are differences as well in motivations and concerns between these two types of organizations in their IT sourcing decisions.

This research attempts to shed some light on the motivators and inhibitors of IT outsourcing decisions of public sector organizations based on a survey of the Norwegian *kommunes*. Exploratory factor analysis of the survey responses suggest that in addition to the commonly identified motivators and concerns in IT outsourcing, such as core competence, cost savings, managing technological change, the sourcing decisions of the Norwegian municipalities are strongly influenced by their institutional environment as well as some unique factors such as geographic locations and considerations for the local communities.

Research Background

Norway consists of 434 municipalities or *kommunes* that constitute a limited area and have their political power granted from the state. These municipalities are responsible for delivering the main part of public services, such as schooling and social welfare according to quality standards determined by the state and local government. The importance of the municipal sector has grown steadily over the years and today it accounts for over 20 percent of GDP of Norway (Hansen, 1999).

The Norwegian municipal structure is relatively fragmented, in the sense that there are many municipalities of extremely varying sizes, from under 1,000 to over half a million inhabitants. More than half of Norwegian municipalities have fewer than 5,000 inhabitants, while only 12 municipalities have a population of more than 50,000. This fragmentation and the great disparities make it extremely difficult for the central government to introduce simple and standardized solutions for providing welfare services. In addition, political support for municipal institutions runs extremely deep (Hansen, 1999).

Historically the municipalities have been responsible for their own IT services. However, due to the fact that they in many aspects have the same basic needs, most municipalities merged their software development into so called “kommunedata” agencies. In the late 1980’s these agencies split up and were privatized. The municipalities were left with the choice whether to shop services from these companies, from others, or to develop software and provide user support and maintenance internally. The last three years have shown a growing trend of IT outsourcing, but it is still early to say whether it will continue. Through interviews with IT managers of these *kommunes* and literature research, we identified the five IT sourcing strategies used in Norwegian municipalities, as shown in Table 1.

Table 1. IT Sourcing Strategies Used in Norwegian Municipalities

| IT Sourcing Strategy | Description |
|-----------------------------|--|
| Total Outsourcing | A municipality gets most or all of its IT services from outside IT service providers. Only a small IT staff manages the contracts with these vendors. |
| Selective Sourcing | A municipality has its own IT staff but also has contractual relationships with outside IT vendors to provide certain services, such as application development, help-desk, and/or telecommunication services. |
| Co-Sourcing | A municipality gets most or all of its IT services from an IT service company formed with other municipalities for the sole purpose of providing IT services for member <i>kommunes</i> . |
| In-Sourcing | A municipality gets most or all of its IT services from an internal IT department as a result of winning the contract by the internal IT department in an open competition with outside IT vendors. |
| No Outsourcing | A municipality has its own IT department that provides all or most of its IT services needed. No outsourcing has been attempted. |

The reach and diversity of the IT sourcing strategies used in the Norwegian municipalities raise some interesting questions. What are the driving forces behind the IT outsourcing movement of the kommunes throughout Norway? What are the factors that determine or significantly influence the selection of a particular IT sourcing strategy by a specific kommune? Are there specific motivations and concerns regarding IT sourcing decisions in the public sector? In this study, we attempt to answer these questions based on the analyses of the responses we collected from managers of the kommunes across Norway in early 2003.

Data and Method

Data were collected from IT managers of kommunes via a survey instrument developed specifically for this study by the authors. The initial constructs from which the individual questions are constructed are derived from an extensive literature review of IT outsourcing studies. Since few IT outsourcing studies are specifically about public sector organizations, we used the constructs identified in a wide range of IT outsourcing research (e.g., Loh and Venkatraman, 1995; Saunders et al., 1997; Ang and Cummings, 1997; Kirkpatrick and Bolles, 2002) as well as literature on institutional theory (e.g., DiMaggio and Powell, 1983; Meyer and Rowan, 1977). Eventually, four categories of motivators and four categories of inhibitors are identified, as listed in Table 2.

Based on these categories, the first version of the questionnaire was developed and used in several pilot tests with selected IT managers from local kommunes. In each of these pilot tests, at least one of the researchers was present to answer questions and to observe the process. After the participants had completed the questionnaire, the researcher conducted an unstructured interview to gather more information about the questionnaire and specific questions the participants might have. The main results of the pilot tests are the significant reduction of total number of questions and the addition of new questions to reflect the characteristics of the kommunes. The final questionnaire consists of 32 questions evenly distributed across the eight categories, plus questions about the demographic and operational characteristics of the kommunes.

Table 2. Original Categories of Influential IT Sourcing Decision Factors

| Category | Description |
|-------------------|---|
| Motivators | |
| Business | Focusing on core competence, cost savings, better and faster services to community. |
| Technical | Access to technical skills, managing rapid technological change, improving quality of IT services. |
| Organizational | Motivating internal staff, availability and reputation of vendors, experience with outsourcing in general. |
| Institutional | Influence from people in the community, politicians and administrators in the funding agencies; requirement of policies and regulations; favorable reports in the news media and professional meetings. |
| Inhibitors | |
| Business | Uncertainty about cost savings; difficulties in pricing; uncertainty about vendor quality. |
| Technical | Uncertainty about vendor ability to handle complex tasks; uncertainty about future IT demand. |
| Organizational | Complexity in managing contracts; fear of loosing control; availability of reputable vendors in local area. |
| Institutional | Concerns of local community, influential people, politicians and administrators; rules and regulations; unfavorable reports in the news media. |

A mailing list of all Norwegian kommunes was acquired through IntraHouse AS (www.intrahouse.no). A total of 434 questionnaires were mailed out in January 2003 to the managers of these kommunes. By early March, 2003, 70 responses have been received. This number is expected to grow higher in the coming months when follow up emails and phone calls are made. Tables 3a and 3b summarize the characteristics of the responding kommunes and their IT sourcing strategies.

Initial multiple discriminant analysis of the responses using the eight original categories, as defined in Table 2, yielded discriminant functions with poor classification power, even though the Cronbach alpha for each construct is satisfactory (≥ 0.6). This is an indication that these are not necessarily the latent decision variables that might have influenced the IT sourcing choices of Norwegian municipalities. Given the exploratory nature of this study, we decided to use factor analysis to determine the dimensional factors first, and then use confirmatory factory analysis techniques to determine the inter-relationships among these factors and their contribution to the IT sourcing decisions. This paper reports the preliminary results of the exploratory factor analysis using the principle component technique.

Table 3a. Characteristics of Responding Kommunes

| Characteristic | Statistics (N=70) | | | |
|----------------------------------|-------------------|------|-------------|-------------------|
| | Max | Min | Average (i) | Standard Div. (ó) |
| Population | 550,000 | 250 | 18,149 | 66,584 |
| IT Budget as % of Operation | 1.98 | 0.36 | 1.32 | 0.63 |
| IT Staff as % of Total Employees | 0.50 | 0.00 | 0.37 | 0.20 |

Table 3b. IT Sourcing Strategies of Responding Kommunes

| Strategy | Statistics (N=70) | |
|--------------------|--------------------|-------------|
| | Number of Kommunes | % of Sample |
| Total Outsourcing | 9 | 12.86 |
| Selective Sourcing | 38 | 54.29 |
| Co-Sourcing | 5 | 7.14 |
| In-Sourcing | 0 | 0.00 |
| No Outsourcing | 17 | 24.29 |
| Other | 1 | 1.43 |

Results and Discussions

Since our questionnaire contains two sections of questions, one for motivations and the other for inhibitors of IT outsourcing, two separate factor analyses are executed. The results on motivations for choosing at least one IT outsourcing strategy are presented in Tables 4a to 4c, and the results on inhibitors of IT outsourcing are presented in Tables 5a to 5c. In both cases, the orthogonal rotation technique of VARIMAX is used to identify the factors that are mathematically independent. We also used the oblique rotation technique PROMAX and found almost identical results.

Table 4a. Outsource Motivator Items Factor Loading (N=50, Varimax Rotation)

| Item | Factor Loading | | | | |
|------|----------------|-------------|-------------|-------------|-------------|
| | F1 | F2 | F3 | F4 | F5 |
| 3 | 0.89 | -0.09 | 0.06 | -0.01 | 0.12 |
| 2 | 0.79 | 0.15 | -0.14 | 0.15 | -0.31 |
| 4 | 0.77 | 0.05 | 0.10 | 0.05 | 0.31 |
| 1 | 0.75 | 0.06 | -0.16 | 0.28 | 0.09 |
| 8 | 0.71 | -0.25 | 0.17 | 0.13 | 0.32 |
| 5 | 0.48 | -0.48 | 0.24 | 0.27 | -0.07 |
| 14 | 0.03 | 0.84 | 0.29 | -0.09 | -0.01 |
| 15 | -0.04 | 0.80 | 0.36 | 0.04 | 0.11 |
| 16 | 0.05 | 0.25 | 0.79 | 0.08 | 0.04 |
| 12 | -0.11 | 0.20 | 0.72 | 0.00 | -0.01 |
| 10 | 0.55 | 0.02 | 0.59 | 0.08 | -0.03 |
| 6 | 0.03 | -0.04 | -0.03 | 0.84 | -0.17 |
| 7 | 0.20 | -0.01 | 0.12 | 0.83 | 0.08 |
| 9 | 0.34 | -0.18 | 0.07 | 0.48 | 0.36 |
| 11 | 0.06 | 0.05 | -0.07 | 0.00 | 0.80 |
| 13 | 0.33 | 0.45 | 0.15 | -0.10 | 0.57 |

Table 4b. Variance Explained by the Factors (Trace=16)

| Factors | F1 | F2 | F3 | F4 | F5 |
|------------------------------|-----------|-----------|-----------|-----------|-----------|
| Variance Explained by Factor | 3.90 | 2.02 | 1.89 | 1.85 | 1.47 |
| % Total Variance | 24% | 13% | 12% | 12% | 9% |
| % Cumulative | 24% | 37% | 49% | 60% | 70% |

Table 4c. Latent Factors Identified as Motivators for IT Outsourcing

| Latent Variable | Factor | Item | Question |
|---|---------------|-------------|---|
| Improving quality of IT and business services | F1 | 3 | Using outside IT vendors would enable us to improve the quality of services to our constituents. |
| | | 2 | Using outside IT vendors would enable us to focus on our strategic missions and objectives. |
| | | 4 | Using outside IT vendors would enable us to develop and deploy new services to our community quicker and better. |
| | | 1 | Using outside IT vendors would enable us to reduce operating cost, including software, hardware, and staff cost. |
| | | 8 | Using outside IT vendors would enable us to significantly improve the quality of our IT services. |
| Institutional influence | F2 | 14 | Administrators in our funding and regulatory agencies have been asking about whether we have considered IT outsourcing as a management strategy. |
| | | 15 | Some highly influential legislators and community leaders have made inquiries about how we can use the IT budget more efficiently. |
| Awareness and availability vendors | F3 | 16 | The frequent coverage of successful IT outsourcing stories in newspapers and trade magazines has made us aware of the outsourcing strategy in IT management. |
| | | 12 | The availability of reputable IT outsourcing vendors in our area and their marketing pressure has certainly made us aware of the IT outsourcing option. |
| Managing technological change | F4 | 6 | With IT outsourcing vendors handling our IT services, we no longer have to worry about upgrading hardware and software in the fast changing technical environment. |
| | | 7 | IT outsourcing would enable us to acquire new or change existing hardware systems and software applications much easier without the limit of internal assets and staff. |
| Accessing outside skills and expertise | F5 | 11 | We have policies that prohibit us from hiring high-paid specialists or consultants we need for certain projects. |

The next significant choice we have to make is the cut-off value for significant factor loading statistic. Since factor loading values essentially represent the correlations between each factor and the original variables, in order to achieve a statistical significance level of $p < 0.05$ and a power level of 80 percent, a sample size of 70 would require a factor loading of 0.65 or higher (Hair et al., 1995, p 385). However, after examining the data, we decided to use 0.60 as the cut-off value given the exploratory nature of this study. The factor loadings above the cut-off value are bolded in the Tables. The analysis of the responses on the IT outsourcing motivator section identified five factors, representing the five dimensions of the motivations behind the decision or intention for IT outsourcing by the kommune managers:

Improving Quality of Business and IT Services. Cost savings, better IT services, and focusing on strategic missions have been consistently identified as the top motivations behind IT outsourcing in many previous studies (Kirkpatrick and Balles, 2002; Clark et al., 1995; McLellan et al., 1995; Lacity and Hirschheim, 1993). The fundamental argument for IT outsourcing has been that cost savings can be attained because IT vendors are assumed to provide lower production costs than internal IT operations through economies of scale achieved by sharing computer hardware and software among multiple clients (Krass, 1990). Our result

suggests that this is also one of the main factors motivating the Norwegian municipalities for their IT outsourcing decisions. Managers in the kommuner have been under constant pressure to provide more and better services with limited resources. Since IT functions are rarely considered as part of the core services, outsourcing becomes an attractive alternative.

Institutional Influence. Municipalities are a highly institutionalized organizational field due to the tightly regulated environment. One of the main objectives of this research is to determine whether institutional influence has played any significant role in the diffusion and adoption of IT outsourcing in Norwegian municipalities. The fundamental argument of the institutional theory is that structural and behavioral change in institutionalized organizations seems less and less driven by competition or by the need for efficiency, but rather as the result of processes of institutionalization that make organizations more similar without necessarily making them more efficient (DiMaggio and Powell, 1983). This is because incorporating externally legitimated formal structures increases the commitment of internal participants and external constituents and the use of external assessment criteria can enable an organization to remain successful by social definition, buffering it from failure (Meyer and Rowan, 1977). Our result confirms the institutional influence as one major motivator of IT outsourcing practices in the Norwegian municipalities.

Awareness and Availability of Vendors. The geo-demographic characteristics of Norway pose a unique challenge to the municipalities in many aspects of their operations and decision making processes, including the selection of IT sourcing strategies. Instead of many vendors competing for outsourcing contracts from one client, as is usually the case in other outsourcing studies, for many kommuner in Norway it often comes down to the matter of availability of vendors. This factor captures the fact that the existence of a reputable IT vendor certainly makes the IT sourcing decision easier than otherwise.

Managing Technological Change. The accelerated rate of technological change during the last two decades triggered by the revolution in information and communication technologies (ICT) has forced organizations in all fields to adopt new strategies for managing change. IT outsourcing has been perceived by managers as a strategy to increase the flexibility of IT operations and infrastructure (Looff, 1995; Clark et al., 1995; Lacity et al., 1995). Our results show that the managers of Norwegian kommuner are not immune from this challenge and they are considering IT outsourcing as a solution.

Accessing to Outside Skills and Expertise. This factor is perhaps the least controversial among all motivators of IT outsourcing and the most widely used by organizations. For Norwegian kommuner, however, it takes on a slightly different meaning. Since most of the kommuner serve relatively small communities and under limited budget, they simply cannot afford to hire permanent IT specialists and experts who usually demand much higher salary than other staff employees. It is only natural for these kommuner to tap into the outside talent pool for specific tasks when the skills and expertise are absolutely needed. For this reason, it is not surprising to see the majority of the kommuner (58% of total responses) have chosen selective outsourcing strategy.

Table 5a. Outsourcing Inhibitor Item Factor Loading (N=65, Varimax Rotation)

| Item | Factor Loading | | | | |
|------|----------------|--------------|--------------|--------------|--------------|
| | F1 | F2 | F3 | F4 | F5 |
| 14 | 0.855 | 0.019 | -0.008 | 0.182 | -0.108 |
| 15 | 0.848 | 0.066 | 0.007 | -0.042 | -0.091 |
| 13 | 0.779 | 0.015 | -0.036 | 0.142 | 0.332 |
| 1 | -0.168 | 0.755 | -0.006 | 0.100 | 0.154 |
| 5 | 0.055 | 0.643 | 0.331 | -0.099 | 0.143 |
| 16 | 0.343 | 0.607 | 0.338 | -0.155 | -0.048 |
| 2 | 0.190 | 0.579 | -0.015 | 0.437 | -0.056 |
| 8 | 0.034 | 0.244 | 0.721 | 0.105 | -0.107 |
| 6 | -0.047 | 0.334 | 0.671 | 0.189 | 0.158 |
| 7 | -0.160 | -0.008 | 0.656 | 0.147 | 0.304 |
| 9 | 0.224 | -0.226 | 0.572 | 0.422 | -0.047 |
| 3 | 0.013 | -0.136 | 0.281 | 0.744 | -0.039 |
| 4 | 0.132 | 0.159 | 0.194 | 0.611 | 0.086 |
| 11 | 0.166 | -0.005 | 0.049 | -0.054 | 0.886 |
| 12 | -0.014 | 0.389 | -0.103 | 0.514 | 0.518 |
| 10 | -0.208 | 0.180 | 0.221 | 0.061 | 0.424 |

Table 5b. Variance Explained by the Factors (Trace=16)

| Factors | F1 | F2 | F3 | F4 | F5 |
|------------------------------|------|------|------|------|------|
| Variance Explained by Factor | 2.41 | 2.14 | 2.13 | 1.73 | 1.55 |
| % Total Variance | 15% | 13% | 13% | 11% | 10% |
| % Cumulative | 15% | 28% | 42% | 53% | 62% |

Table 5c. Latent Variables Identified as Inhibitors for IT Outsourcing

| Latent Variable | Factor | Item | Question |
|------------------------------------|--------|------|---|
| Institutional Influence | F1 | 14 | In choosing our particular IT sourcing strategy, we carefully considered the concerns of our administrative and funding agencies. |
| | | 15 | In choosing our particular IT sourcing strategy, we solicited the opinions of legislators, and influential people in government and our commune. |
| | | 13 | In choosing our particular IT sourcing strategy, we carefully considered the concerns of our constituents. |
| Business and technical uncertainty | F2 | 1 | We are not sure that IT outsourcing would save us money in hardware, software, or staff cost in the long run. |
| | | 5 | Many of our IT applications are very unique to our business processes and specialized in functionality; we doubt any vendors could do a better job than our internal IT staff. |
| | | 16 | The stories about the failures of other organizations in IT outsourcing as reported in the newspapers and trade magazines have made us extra careful in choosing our own IT sourcing strategies |
| Concerns about losing control | F3 | 8 | It is difficult to control the quality of the IT services due to the complexity of systems and applications and the interactions among IT systems and business processes. |
| | | 6 | Once you outsource your IT services, it would be difficult to rebuild the skills and knowledge of an internal IT department if that becomes necessary. |
| | | 7 | It is risky to completely rely on outside vendors since no one knows for sure what type and how much of IT services we would need in the future. |
| Concerns about trusting vendors | F4 | 3 | Since the IT service market has been changing rapidly, it is difficult to determine the appropriate pricing structure for the future. |
| | | 4 | We consider IT as one of the main functions that are so critical to our ability to deliver quality services to be handled by outsiders. |
| Geographic constraints | F5 | 11 | Our geographic location demands us to do everything ourselves since there are no reputable vendors in our area to rely on. |

Similar to the factor analysis on IT outsourcing motivators, when the responses on the concerns and inhibitors of IT outsourcing are analyzed, five factors are identified, as shown in Tables 5a to 5c. Due the nature of the orthogonal rotation technique VERIMAX, these five factors are completely independent of each other and representing the five underlying dimensions of the overall concerns of the kommune managers as expressed in their responses. These factors are:

Institutional Influence. Once again institutional influence is captured as one of the independent factors managers of the kommunes must consider in the IT sourcing decisions. It is notable that institutional influence seems to have played a more significant role in inhibiting than motivating IT outsourcing decisions. Due the to fact that many Norwegian kommunes are located in remote areas where businesses are few and job opportunities are scarce, decision makers often have to make difficult choices between efficiency and the need of the community. Influential figures in the community and local legislative regulations and rules all weigh heavily on to the IT sourcing decisions. In smaller kommunes, this type of institutional pressure can make all the difference in deciding which IT sourcing strategy to adopt, even if it may not be the best choice in the sense of operational efficiency.

Business and Technical Uncertainty. In a complex and fast changing environment, such as information technology, it is often difficult, if not impossible, to predict future technological trend or operational needs. Successful IT outsourcing depends on short-term and detailed contracts that govern the client-vendor relationship. For instance, Lacity and Willcocks (1998) found that short-term contracts usually achieve expected cost savings with higher frequency than long term contracts, and that detailed fee-per-service contracts usually achieve expected cost savings with a higher frequency than other types of contracts. The essence of the issue is trust between the outsourcing client and vendor, which has been identified as one of the key factors for successful relationship (Saunders et al., 1997) and it is also one of the top concerns of the municipality managers.

Concerns about Losing Control. Some of the IT operations and applications used in the kommunes are so tightly integrated with other part of the operations such as healthcare and social welfare services (e.g., housing) that kommune managers are naturally reluctant to relinquish their control to outside IT vendors. The concerns about the loss of internal technical capability and flexibility as a result of IT outsourcing is also well documented in the literature (Clark et al., 1995; Loh and Venkatraman, 1995; Earl, 1996).

Concerns about Trusting Vendors. Our results suggest that kommune managers are concerned with the capabilities of IT vendors for handling their complex IT systems and functions. This is rarely an issue in the published IT outsourcing studies that usually draw samples from large corporations in the metropolitan areas of U.S. and Europe (e.g., Lacity and Willcocks, 1998; Loh and Venkatraman, 1995) where there are plenty of vendors operating in a highly competitive market. Since most of the Norwegian municipalities are not in metropolitan areas, their choices of IT vendors are usually very limited or there is no choice at all. Thus it is quite natural for the managers to be concerned with the capabilities of the IT vendors when making the IT sourcing decisions.

Geographic Constraints. During our interviews with managers of the kommunes, it was discovered that there are several geographic related factors that are unique to Norwegian municipalities. For instance, some kommunes are located in remote areas where virtually no significant IT vendors exist and it is often impractical to provide IT services remotely. Even in the case where some IT services can be provided remotely, kommune managers made conscious decisions to perform most IT activities internally in order to provide more jobs to the local community.

Conclusions

In this exploratory study we attempt to further our understanding of motivations and concerns of IT outsourcing in the public sector using Norwegian municipalities as the main source of data. Factor analyses revealed that in addition to the commonly identified motivators and risks for IT outsourcing, such as cost savings, strategic focus, access to outside skills and expertise, and managing technological change, the Norwegian public sector organizations have other motivations and face some unique challenges, such as vendor availability, vendor capability concerns, and geo-political concerns. More importantly, we find that institutional influences are both motivating and inhibiting IT outsourcing decisions of the Norwegian municipalities. We believe these findings have significant theoretical and practical implications to researchers and managers alike. The perspectives of institutional theory shed some unique light on the decision making process of organizations and help managers to avoid certain institutional traps and make better and more informed decisions. Our findings also suggest that the IT outsourcing decision of the Norwegian kommunes cannot be explained by pure economic and technical factors alone. Political and geo-political factors played major roles in the decision process, which will be one of the focuses of our future research.

As a preliminary study, the generalizability of the findings may be limited due to relatively small sample size. We also expect that some of the identified motivators and inhibitors may change as we continue to receive more responses from the kommunes. Future studies will further explore the significance of the institutional influence on the IT outsourcing decisions with a much larger data set and confirmatory factor analysis techniques such as structural equation modeling.

References

- Ang, S. and Cummings, L. L. "Strategic Response to Institutional Influences on Information Systems Outsourcing," *Organization Science*, (8:3), 1997, pp. 235-256.
- Cheon, M. J., Grover, V., and Teng, J. T. C. "Theoretical Perspectives on the Outsourcing of Information Systems," *Journal of Information Technology*, (10:4), 1995, pp. 209-219.
- Clark, T. D., Zmud, R. W., and McCray, G. E. "The Outsourcing of Information Services: Transforming the Nature of Business in the Information Industry," *Journal of Information Technology*, (10:4), 1995, pp. 221-237.

- Cronk, J. and Sharp, J. "A Framework for Deciding What to Outsourcing in Information Technology," *Journal of Information Technology*, (10:4), 1995, pp. 259-267.
- Cross, J. "IT Outsourcing: British Petroleum's Competitive Approach," *Harvard Business Review*, May-June, 1995, pp. 94-102.
- Currie, W. L. "Outsourcing in the Private and Public Sectors: An Unpredictable IT Strategy," *European Journal of Information Systems*, (4:4), 1996, pp. 226-236.
- DiMaggio, P. J., Powell, W. W. "Iron Cage Revisited: Institutional Isomorphism and Collective Rationality in Organizational Fields," *American Sociological Review*, (48:2), 1983, pp. 147-160.
- Earl, M. J. "The Risks of Outsourcing IT," *Sloan Management Review*, (37:3), 1996, pp. 6-32.
- Hair, J. F., Anderson, R. E., Tatham, R. L., and Black, W. C. *Multivariate Data Analyses*, 4th Edition, Prentice Hall, Englewood Cliffs, New Jersey. 1995.
- Hansen, T. "Municipal Self-Government in the Service of the Welfare State," available online at <http://www.odin.dep.no/odin/engelsk/norway/system/032005-990412/index-dok000-b-n-a.html>, 1999.
- Huber, R. L. "How Continental Bank Outsourced Its "Crown Jewels"," *Harvard Business Review*, (71:1), 1993, pp. 121-129.
- Healy, T. J. and Linder, J. C. "Outsourcing in Government: The Path to Transformation," Research Report, Accenture, Inc., 2002.
- Kern, T., J. Lerijger, L. Willcocks "Exploring ASP as Sourcing Strategy: Theoretical Perspectives, Propositions for Practice," *Journal of Strategic Information Systems*, (11:2), 2002, pp. 153-177.
- Kirkpatrick, T. A. and Bolles, G. A. "Research: How CIOs Reach Outsourcing Deals," *CIO Insight*, May 15, 2002. Also available online at http://www.cioinsight.com/print_article/0,3668,a=27000,00.asp.
- Krass, P. "The Dollars and Sense of Outsourcing," *Information Week*, issue 259, February 26, 1990, pp. 26-31.
- Lacity, C. M. and Hirschheim, R. *Information Systems Outsourcing: Myths, Metaphors, and Reality*, John Wiley & Sons, New York. 1993.
- Lacity, C. M. and Willcocks, L. P. "An Empirical Investigation of Information Technology Sourcing Practices: Lessons from Experience," *MIS Quarterly*, (22:3), 1998, pp. 363-408.
- Lacity, C. M., Willcocks, L. P., and Feeny, D. F. "IT Outsourcing: Maximize Flexibility and Control," *Harvard Business Review*, May-June, 1995, pp. 84-93.
- Lacity, C. M., Willcocks, L. P., and Feeny, D. F. "The Value of Selective IT Sourcing," *Sloan Management Review*, (37:3), 1995, pp 13-25.
- Lackow, H. M. "IT Outsourcing Trends," Report # R-1289-01-RR, the Conference Board, New York, New York. 2001.
- Loh, L. and Venkatraman, N. "Diffusion of Information Systems Outsourcing: Influence Sources and the Kodak Effect," *Information Systems Research*, (3:4), 1992a, pp. 334-378.
- Loh, L. and Venkatraman, N. "Determinants of Information Technology Outsourcing: A Cross-Sectional Analysis," *Journal of Management Information Systems*, (8), 1992b, pp. 7-24.
- Loh, L. and Venkatraman, N. "An Empirical Study of Information Technology Outsourcing: Benefits, Risks, and Performance Implications," *Proceedings of the Sixteenth International Conference on Information Systems*, Amsterdam, the Netherlands, December 10-13, 1995, pp. 277-288.
- Looff, L. A. de "Information Systems Outsourcing Decision Making: A Framework, Organizational Theories and Case Studies," *Journal of Information Technology*, (10:4), 1995, pp. 281-297.
- McLellan, K., Marcolin, B. L., and Beamish, P. W. "Financial and Strategic Motivations behind IS Outsourcing," *Journal of Information Technology*, (10:4), 1995, pp. 299-321.
- Meyer, J. W. and Rowan, B. "Institutionalized organizations: Formal structure as myth and ceremony," *American Journal of Sociology*, (83:2), 1977, pp. 340-363.
- Saunders, C., Gebelt, M., and Hu, Q. "Achieving Success in Information Systems Outsourcing," *California Management Review*, (39:2), 1997, pp. 63-79.
- Strassmann, P. "The Xerox Tragedy," *Computerworld*, November 6, 2000. Also available online at <http://www.strassmann.com/pubs/cw/xerox.shtml>.
- Willcocks, L. P. and Kern, T. "IT Outsourcing as Strategic Partnering: The Case of the UK Inland Revenue," *European Journal of Information System*, (7:1), 1998, pp. 29-45.